

# 2012 King County Metro Transit Peer Agency Comparison on Performance Measures



Department of Transportation  
Metro Transit Division  
King Street Center, KSC-TR-0415  
201 S. Jackson St  
Seattle, WA 98104  
206-553-3000 TTY Relay: 711  
[www.kingcounty.gov/metro](http://www.kingcounty.gov/metro)

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206-477-3839 TTY Relay: 711

# Peer agency comparison on performance measures

Every year, King County Metro Transit compares its performance to that of peer agencies using data from the National Transportation Database (NTD). Metro compares itself to 29 of the other largest<sup>1</sup> bus transit agencies in the U.S. on eight indicators. Only bus modes (motor bus, trolley bus, commuter bus, and rapid bus, as defined by the NTD) are included for the agencies.

The measures presented are from 2012, with comparisons to previous years. NTD annual data are not available until the end of the following year, so the analysis is delayed by one year. Other challenges to peer analyses include the fact that only bus performance measures are measured, but many of the peer agencies also operate significant rail systems around which they structure their bus networks. This may affect their performance on the measures compared.

Also, it is not always clear what has been included and excluded in the NTD reports. In previous years, Metro reports included Sound Transit bus service operated by Metro. This analysis does not include Sound Transit service, but the composition of other agencies' reports is uncertain. That is one reason Metro uses a robust cohort of 30 peers and shows the averages among them.

The key measures compared are based on service and financial statistics.

Service measures are:

- boardings (the total number of times passengers board buses during the year)
- vehicle hours and vehicle miles (the hours and miles a bus travels from the time it leaves its base until it returns)
- passenger miles (the total miles traveled by all passengers)

Financial measures are the total bus operating cost divided by the service statistics. Farebox recovery is the total bus fare revenue divided by operating costs.

Over the past five years, Metro has not done as well as the peer average on the measures related to passenger miles. Metro's average bus passenger trip length (passenger miles divided by passengers) declined as Sound Transit's Link light rail replaced some of the longer trips, and service restructures focused on shorter, all-day routes more than on peak commuter routes.

Metro did not do as well as the peer average on costs in the 2011-2012 period (but did better in the 5-year and 10-year trends). Added costs came from insurance and from support costs such as security and information technology.

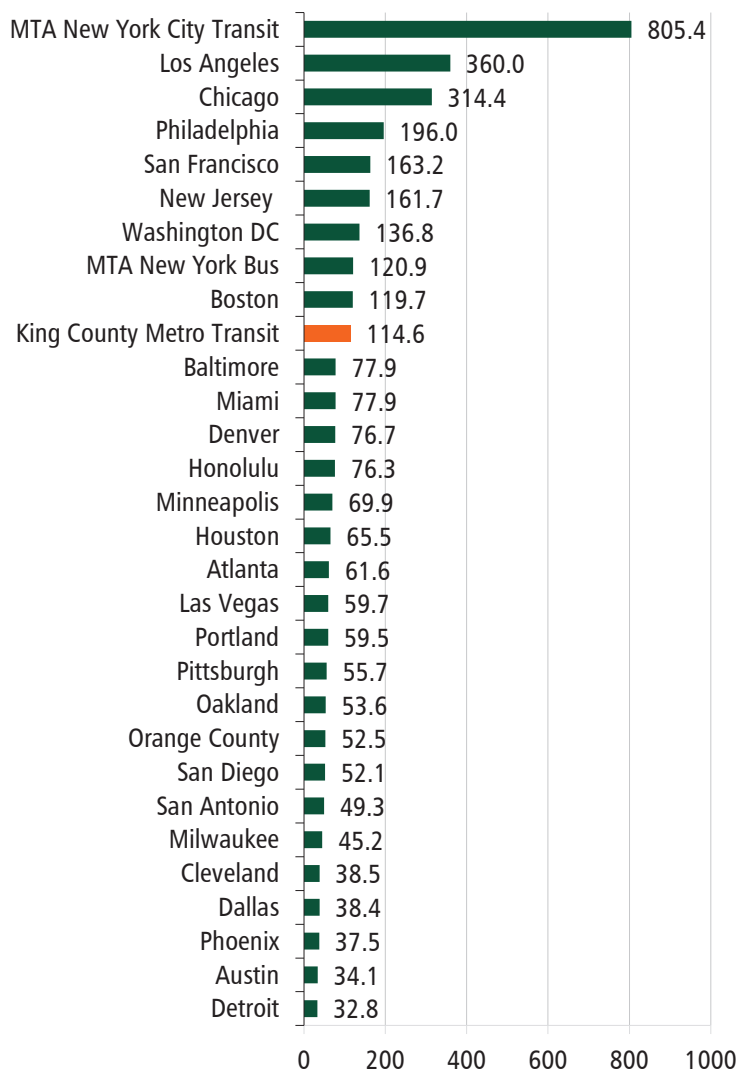
Over 10 years, Metro has done at least as well as the peer average on all of the measures, particularly in the measures related to boardings and farebox recovery.

	2012			1-year Annual Growth			5-year Annual Growth			10-year Annual Growth		
	Metro	Rank	Peer Avg	Metro	Rank	Peer Avg	Metro	Rank	Peer Avg	Metro	Rank	Peer Avg
Boardings	114.6m	10th	120.2m	2.3%	16th	2.2%	-0.8%	11th	-1.7%	2.2%	4th	-0.2%
Boardings per hour	31.9	15th	35.2	0.5%	23rd	3.4%	-1.4%	23rd	0.3%	1.2%	8th	0.3%
Passenger miles per mile	11.0	11th	10.9	2.3%	23rd	6.6%	-3.0%	28th	1.9%	1.4%	17th	1.4%
Cost per hour	\$135.68	8th	\$123.29	4.8%	11th	4.0%	2.3%	19th	3.1%	3.8%	20th	4.2%
Cost per mile	\$10.86	10th	\$10.36	6.1%	9th	4.8%	2.4%	20th	3.7%	4.4%	15th	4.5%
Cost per boarding	\$ 4.25	8th	\$3.72	4.2%	3rd	0.7%	3.7%	8th	2.9%	2.5%	23nd	3.9%
Cost per passenger mile	\$0.99	14th	\$0.98	3.7%	3rd	-1.4%	5.5%	4th	1.8%	2.9%	16th	3.1%
Farebox recovery <sup>2</sup>	29.0%	13th	27.8%	0.8%	6th	0.2%	5.6%	4th	2.4%	8.8%	5th	2.3%

<sup>1</sup>By number of boardings

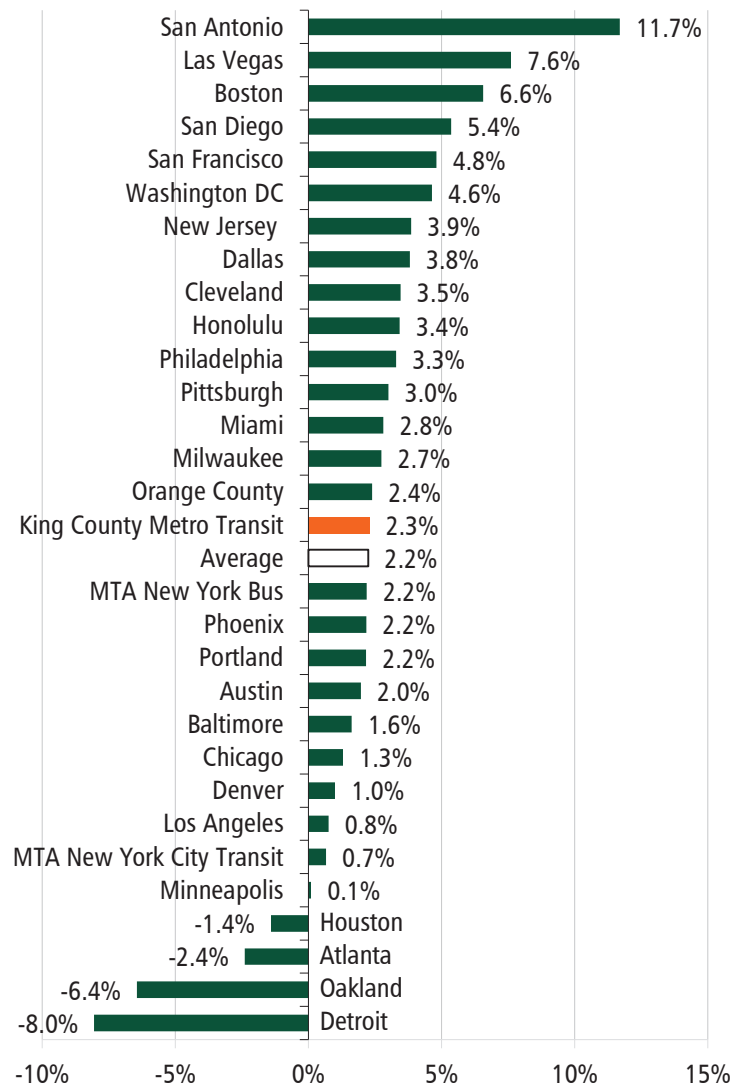
<sup>2</sup>The growth is the total percentage-point growth.

**Bus Boardings—2012**  
(in millions)



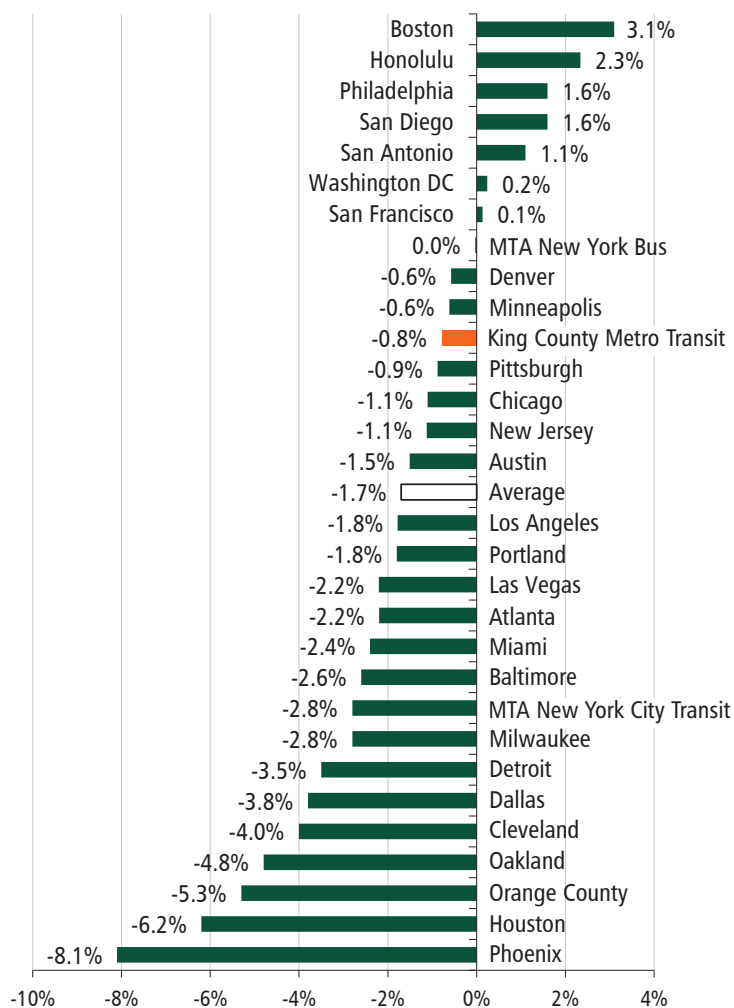
Metro had 114.6 million bus boardings in 2012 (peer rank: 10).

**Bus Boardings**  
**Percentage Change 2011–2012**



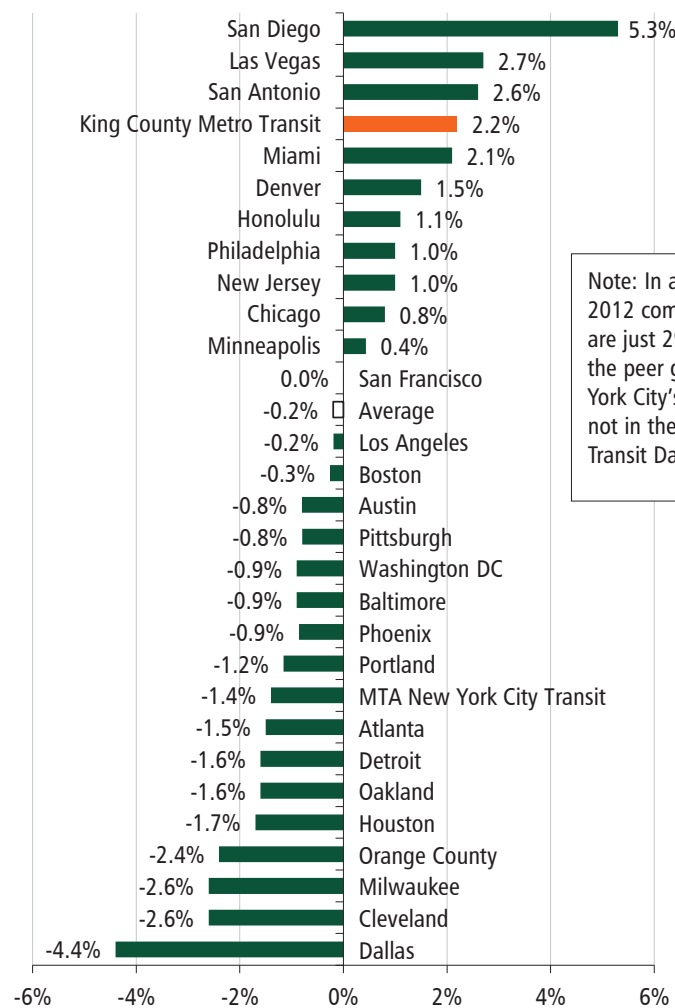
Metro boardings increased 2.3 percent in 2012 (peer rank: 16), about the same as the peer average.

**Bus Boardings**  
Average Annual Percentage Change 2008–2012



Metro boardings decreased by a yearly average of 0.8 percent from the record high boardings in 2008 (peer rank: 11). The recession played a significant role as employment in King County had not returned to 2008 levels by 2012. In this five-year time period, Metro raised fares four times, the downtown Seattle Ride Free Area ended, and in 2009 Sound Transit began Link light rail service in a heavily used bus corridor, all of which had a downward effect on Metro ridership.

**Bus Boardings**  
Average Annual Percentage Change 2003–2012



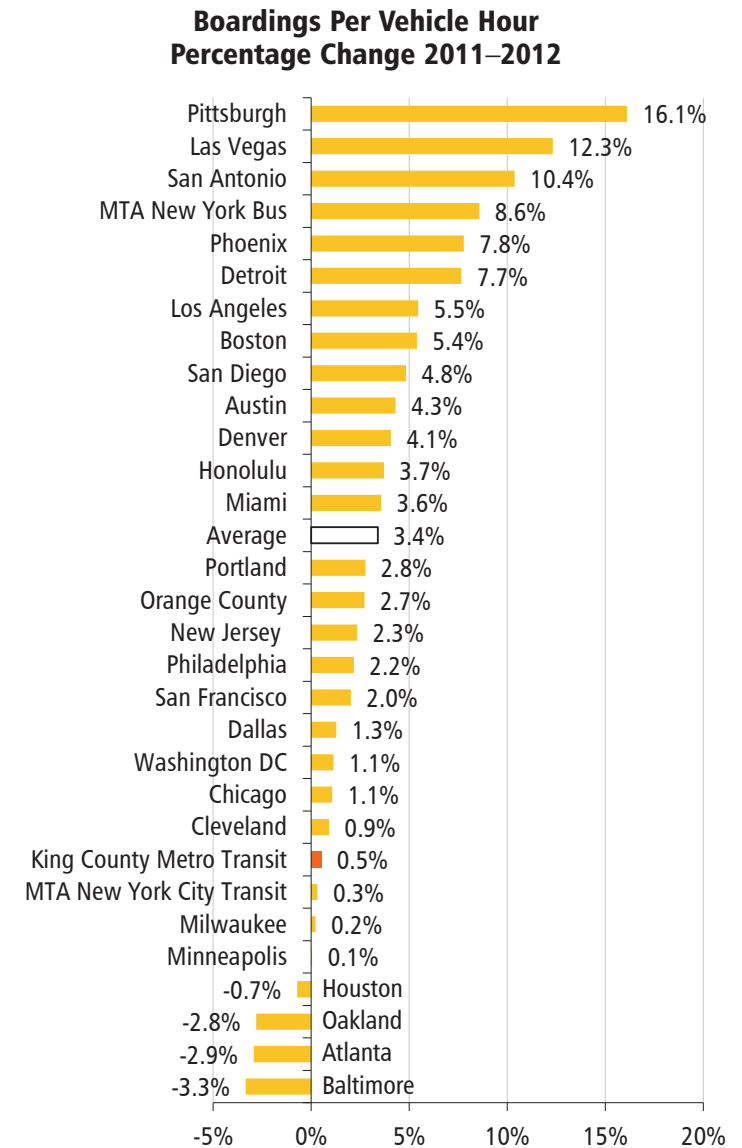
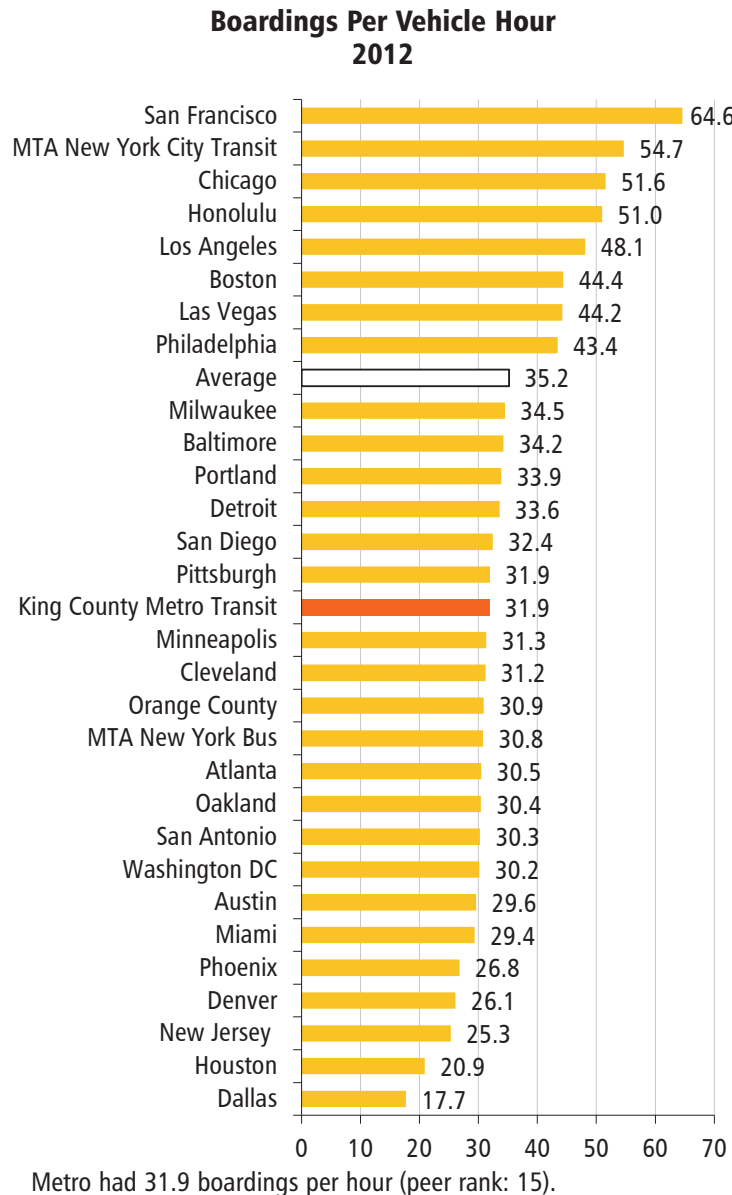
Note: In all of the 2003-2012 comparisons, there are just 29 agencies in the peer group. New York City's MTA Bus was not in the 2003 National Transit Database.

Metro's annual boardings growth averaged 2.2 percent per year since 2003 (peer rank: 4).

In recent years, many peer agencies have seen more growth in boardings per vehicle hour than Metro has. Metro added service that affected the boardings-per-hour ratio. Some of these new service hours produced above-average boardings (e.g., RapidRide and Alaskan Way Viaduct mitigation service), while others were expected to result in ridership below the systemwide average (e.g., partnerships and Transit Now additions to routes serving growing areas).

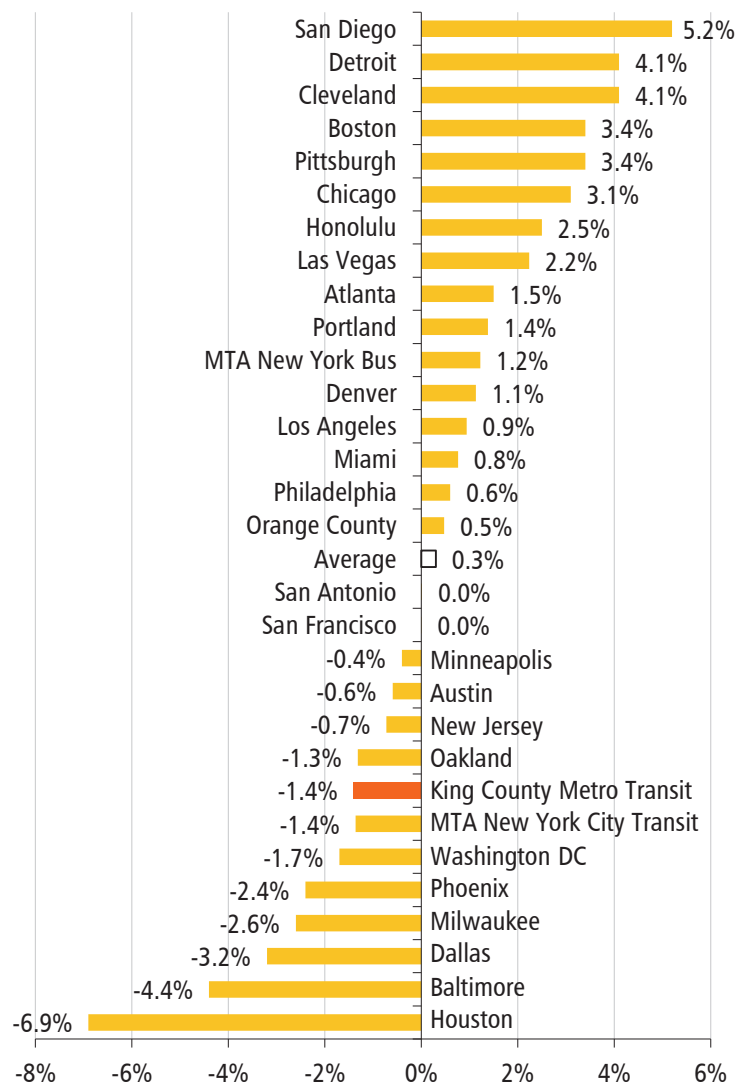
Productivity is one of the priorities for Metro service investments; social equity and geographic value also are high priorities. Before the service guidelines were adopted in 2011, most service investments were targeted into east and south King County, where there is less density and productivity. While ridership has grown at a rapid rate over the past decade in these two areas, the average boardings per hour in both areas is below the system-wide average. The most extensive reinvestments made under the service guidelines rolled out in the last four months of 2012. Therefore, their long-term effect on boardings per hour is not apparent in the 2012 report.

In response to the 2009 Performance Audit, Metro reduced layover times between trips in 2010 and 2011. This increased boardings per hour, but hurt on-time performance because buses running late did not have enough cushion to recover lost time.



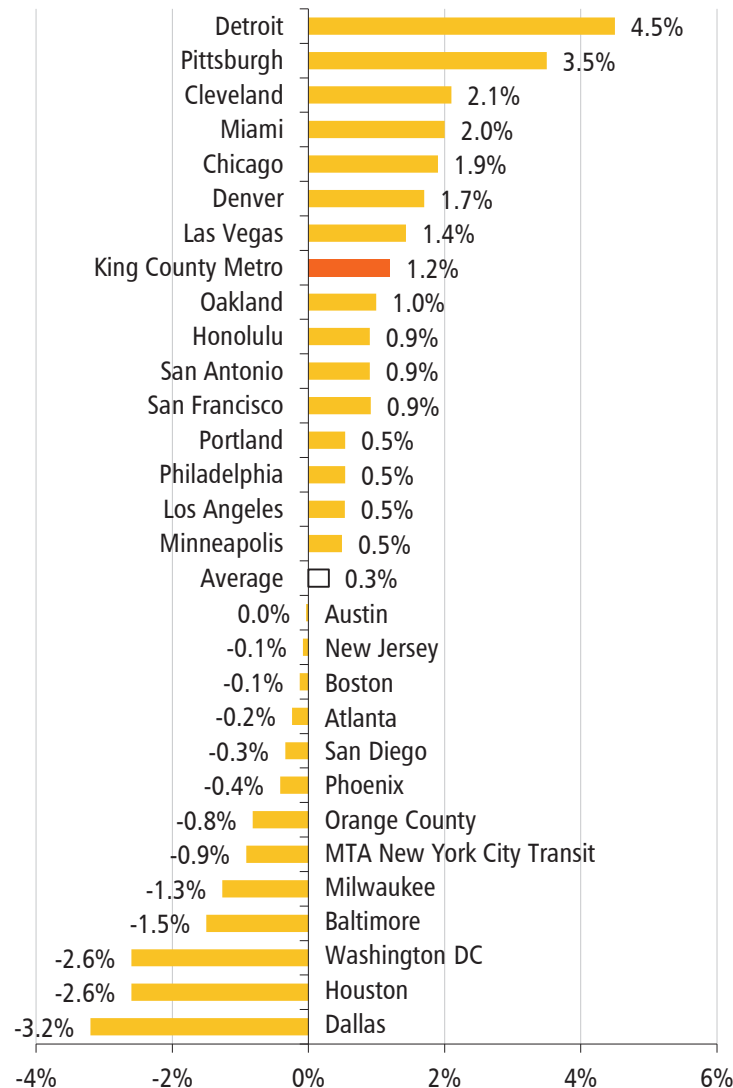
One-year growth in boardings per hour was 0.5 percent (peer rank: 23). As noted previously, Metro added hours to improve on-time performance. Also, a week-long snow and ice storm in January decreased annual boardings (and thus boardings-per-hour) by about 0.6%.

**Boardings Per Vehicle Hour  
Average Annual Percentage Change 2008–2012**



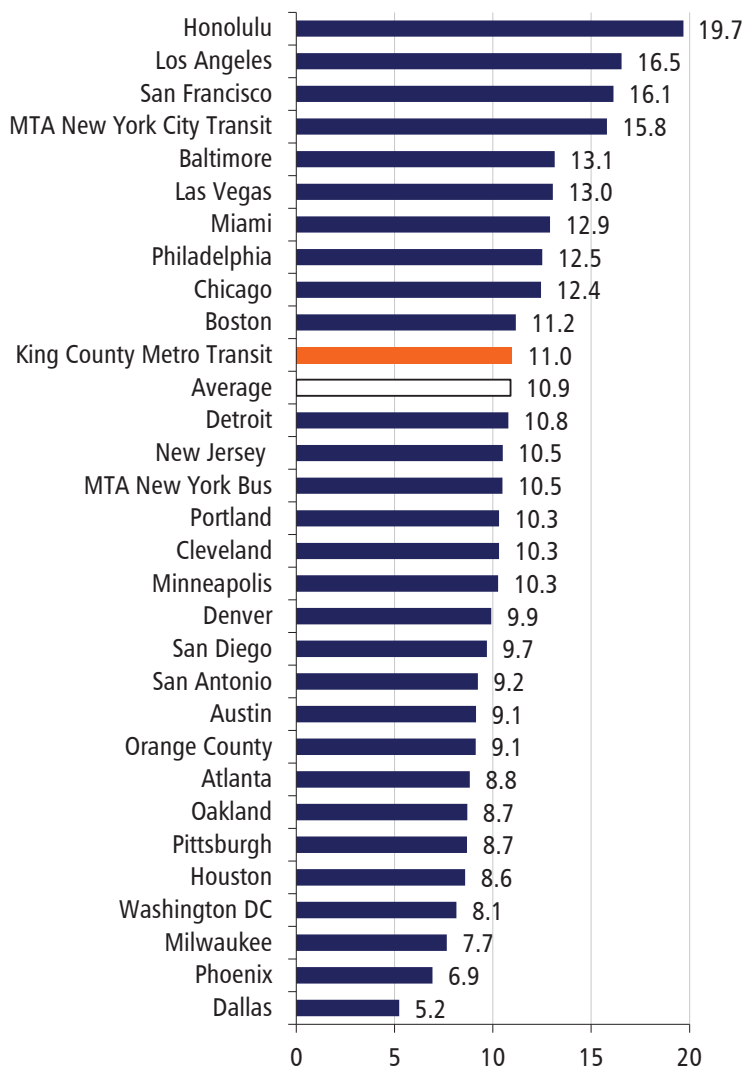
Over five years Metro had an average annual decline of 1.4 percent in boardings per hour (peer rank: 23). Nineteen of the 22 peer agencies ahead of Metro cut service during this time, which likely was less productive service.

**Boardings Per Vehicle Hour  
Average Annual Percentage Change 2003–2012**



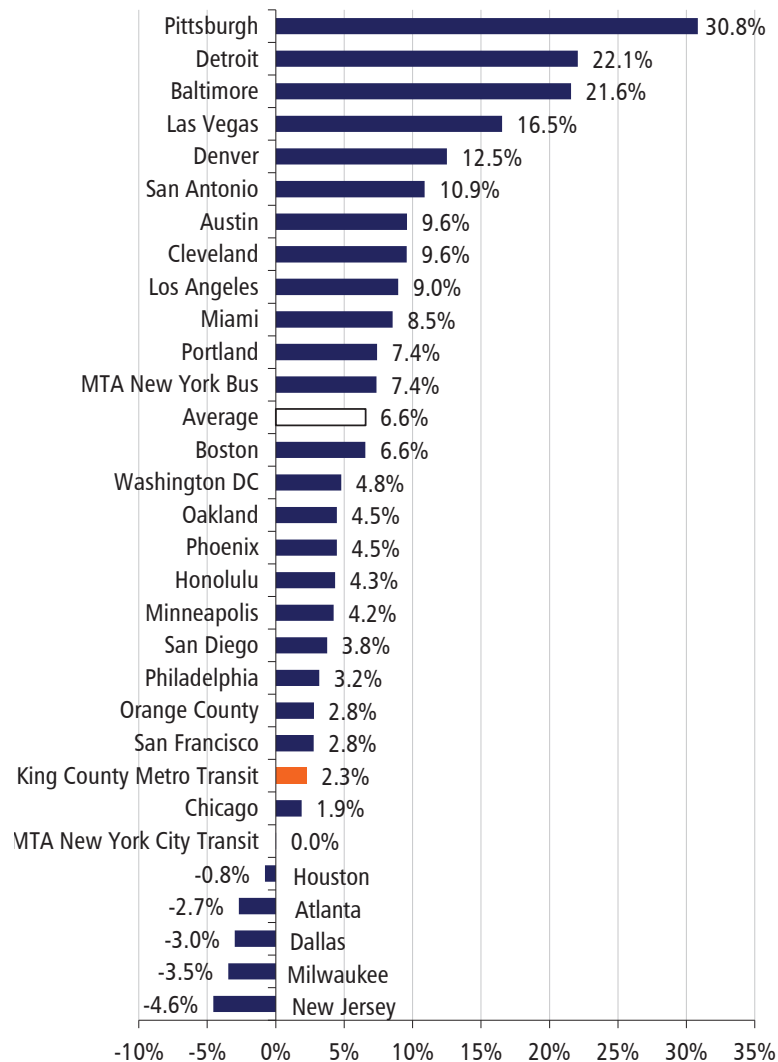
Over 10 years, Metro's boardings per hour grew at an average annual rate of 1.2 percent (peer rank: 8). This reflects the strong long-term growth in boardings mentioned in the previous section.

**Passenger Miles Per Vehicle Mile  
2012**



Metro had 11.0 passenger miles per vehicle mile (peer rank: 11).

**Passenger Miles Per Vehicle Mile  
Percentage Change 2011–2012**



Metro passenger miles per vehicle mile increased 2.3 percent from 2011 to 2012 (peer rank: 23), which tracks with the 2.3 percent gain in boardings. Metro added 0.5 percent more vehicles miles in 2012, while 15 of the 22 agencies who ranked higher on this ratio decreased their vehicle miles.

Over the five years 2008–2012, Metro’s passenger miles per vehicle mile decreased at an average annual rate of 3.0 percent (peer rank: 28). Several factors contributed to this, including increases in vehicle miles, decreases in average trip length, and service restructures.

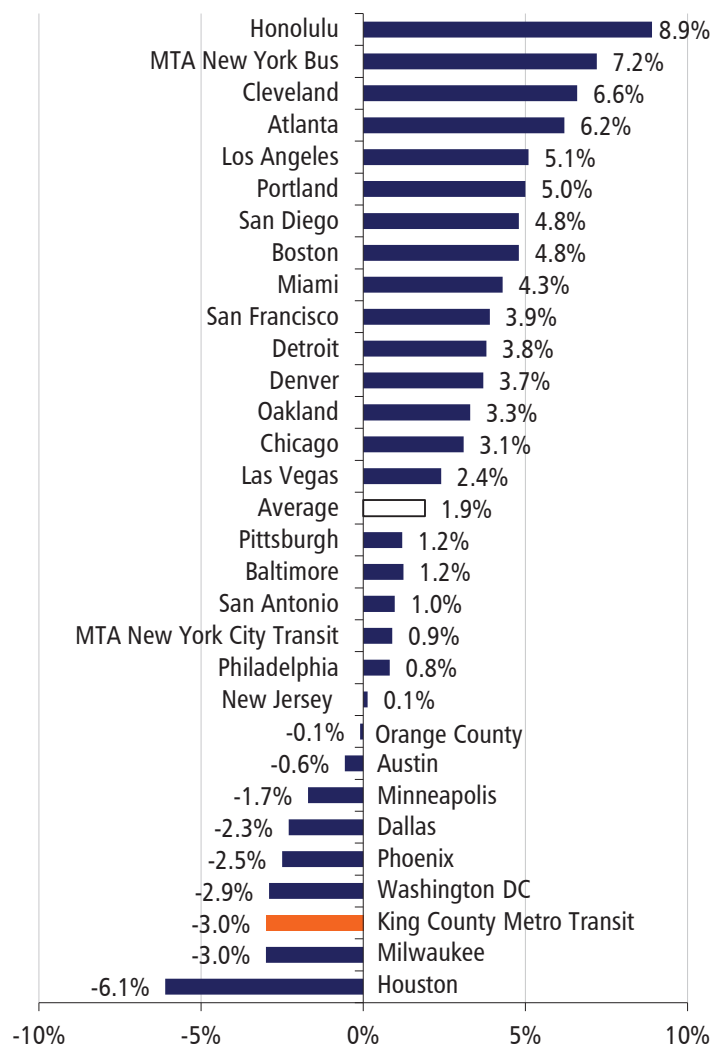
While Metro added 2 percent more vehicle miles during this period, 24 of the other 29 agencies decreased their miles.

Metro’s average trip length decreased significantly, from 4.6 miles to 4.3. This was partly because of the recession, as commute trips tend to be longer than other trips. The average trip length also declined because restructures of Metro service around Link light rail and RapidRide tended to focus service on all-day routes rather than longer-distance commuter routes. For example, in 2010, Link replaced Metro Route 194, which operated between Seattle, SeaTac, and Federal Way. Route 194 had accounted for about 4 percent of Metro’s total passenger miles.

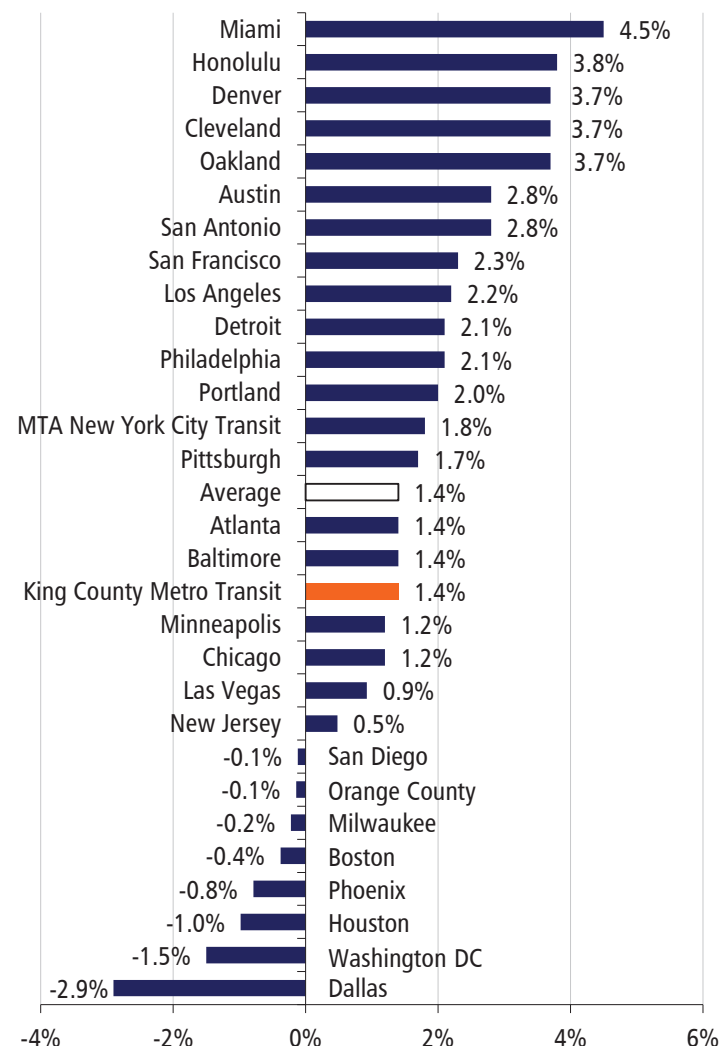
Metro is shifting rides from longer trips that are filled for most of the ride (e.g. fill up at the park-and-ride or airport and then travel a long distance into downtown) to more frequent, shorter trips where passengers are riding only part of the distance of the trip. For instance, resources from route 194 were invested in routes such as the 8, 36, 60, 124, and 180 which don’t have many end-to-end rides.

In addition, increased ridership on Sounder commuter rail probably replaced some long Metro bus rides.

**Passenger Miles Per Vehicle Mile  
Average Annual Percentage Change 2008–2012**



**Passenger Miles Per Vehicle Mile  
Average Annual Percentage Change 2003–2012**



Over 10 years, Metro’s passenger miles per vehicle mile increased at an annual rate of 1.4 percent (peer rank: 17), the same as the peer average.



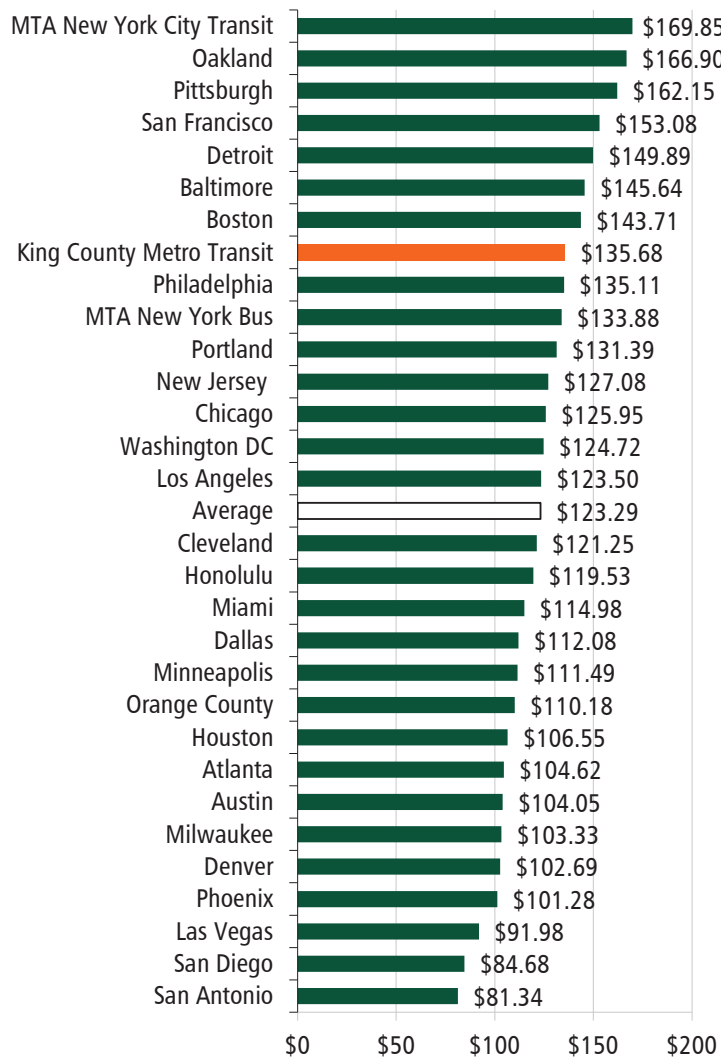
### Operating cost per vehicle hour

Several factors contribute to bus operating cost per vehicle hour. Most (about 70 percent) of the total cost comes from the direct costs of putting buses on the road, including wages and benefits for bus drivers, vehicle maintenance, fuel or power (electricity), and insurance. Additional costs are for critical support functions including information technology, safety and security, management and administrative services (human resources, payroll, accounting, budget, and planning), and maintenance of bases and passenger facilities (shelters, park-and-rides, transit centers, etc.). Because Metro is part of a large, general-purpose government, support is also provided by other county agencies.

Other contributing factors include the type, size, and mix of fleet vehicles and average miles per hour. Fleet makeup can influence cost significantly. Metro's operating costs per vehicle hour reflect a heavy reliance on large articulated buses, which are more expensive to operate than smaller buses. Articulated buses provide operating efficiencies in other ways, such as the ability to carry more passengers and handle high demand during peak periods. Metro is one of only four peers to operate trolley buses, which are more expensive to operate than motor buses. However, they minimize pollution, operate more quietly, and are well suited for climbing the steep hills of Seattle.

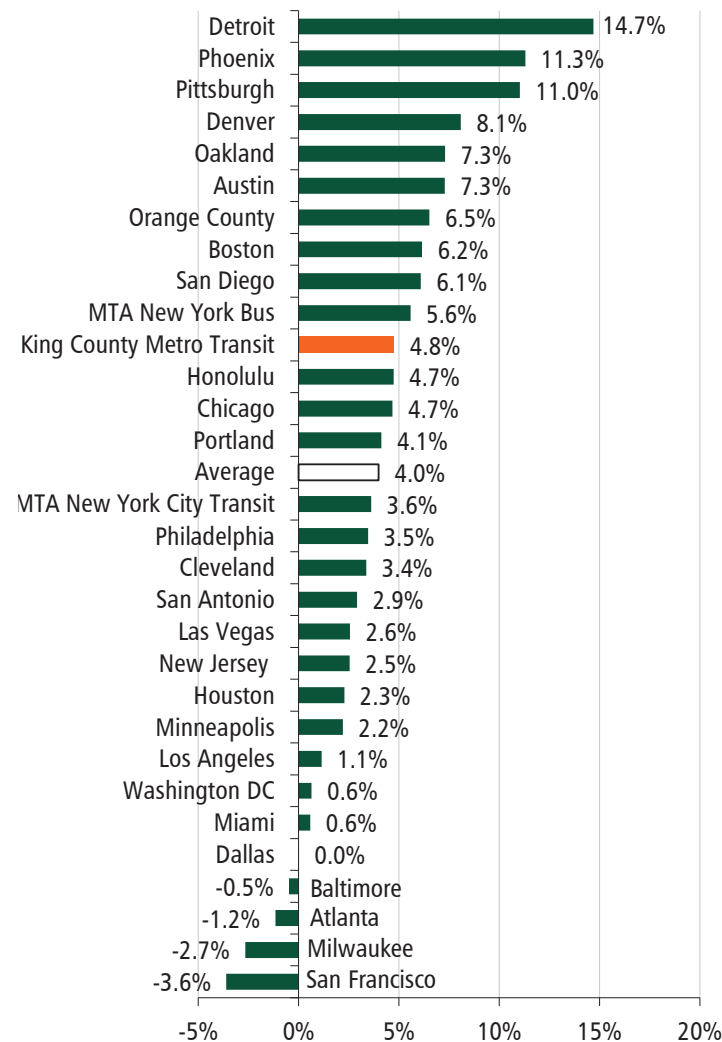
Another cost, unique to Metro, is the maintenance and operation of the Downtown Seattle Transit Tunnel. This facility adds to Metro's total costs, but also supports efficient operation and quality of service in the busy Seattle core, reducing the number of service hours needed.

### Operating Cost Per Vehicle Hour 2012



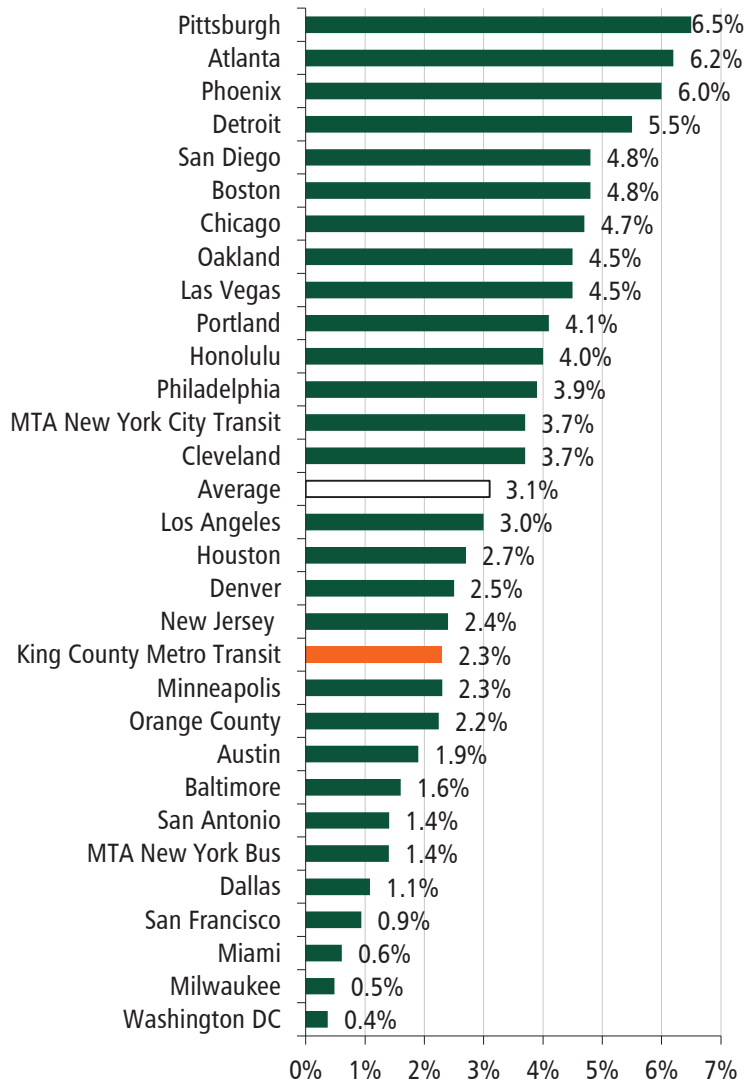
In 2012 Metro's operating cost per hour was \$135.68 (peer rank: 8).

### Operating Cost Per Vehicle Hour Percentage Change 2011-2012

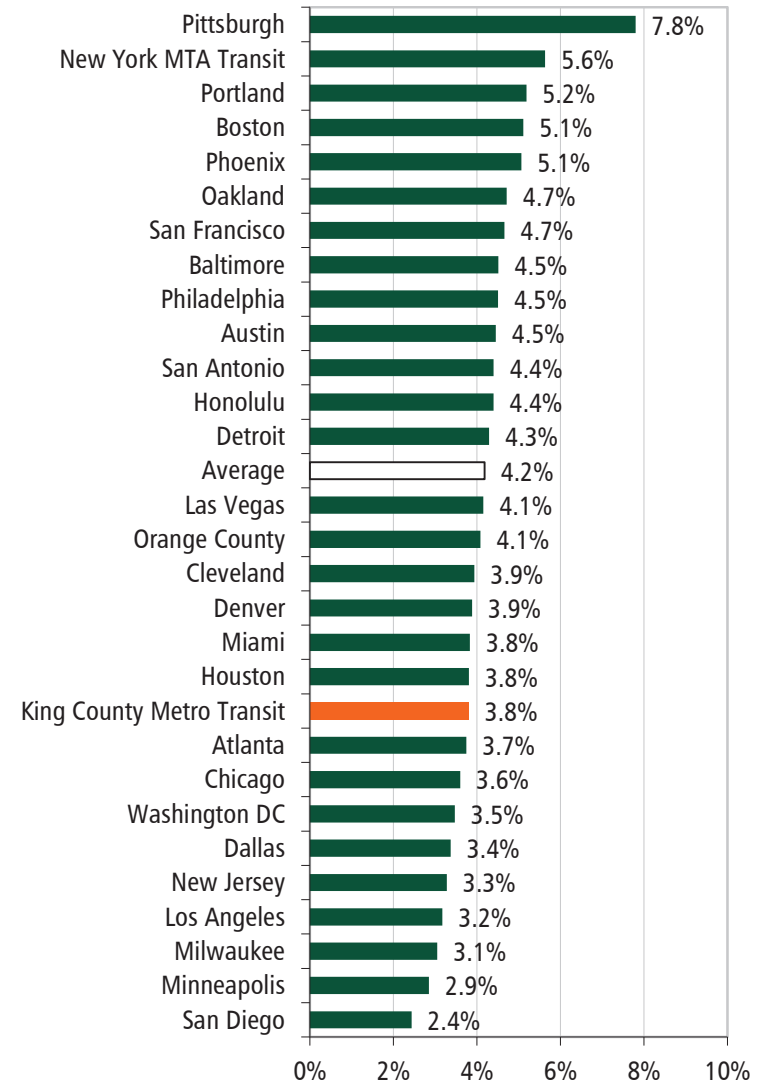


Metro's operating cost per hour increased 4.8 percent in 2012 (peer rank: 11). Much of this added cost came from insurance costs and from support costs such as security and information technology.

**Operating Cost Per Vehicle Hour  
Average Annual Percentage Change 2008–2012**



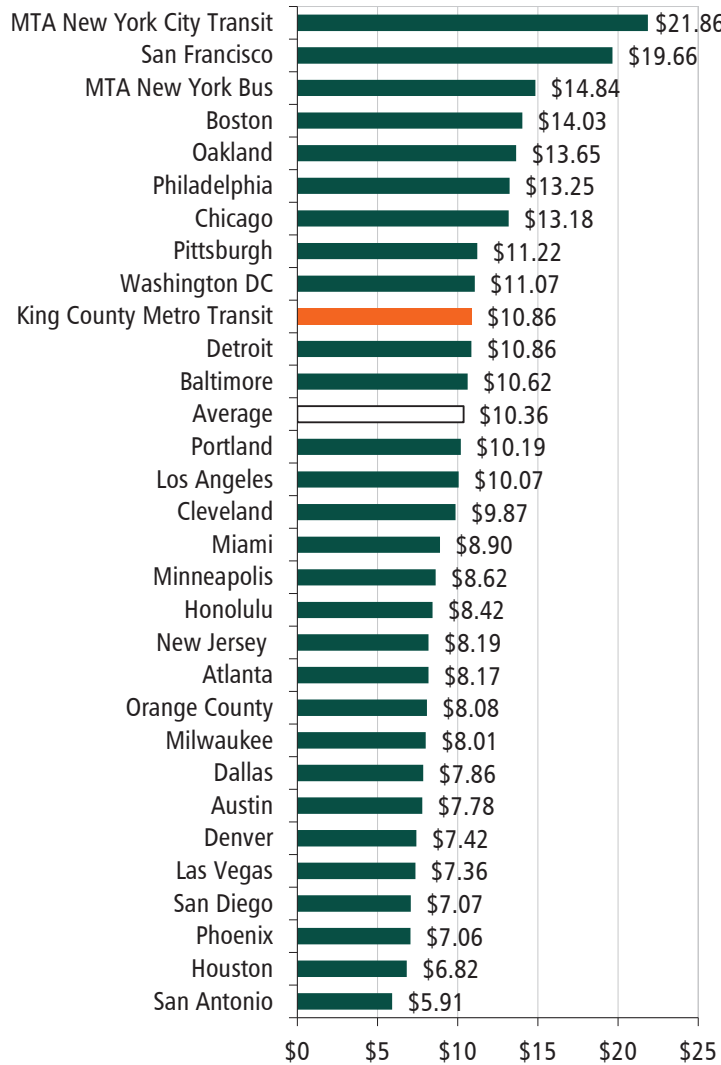
**Operating Cost Per Vehicle Hour  
Average Annual Percentage Change 2003–2012**



Metro had an average annual growth of 2.3 percent over five years (peer rank: 19), 0.8 percent below the peer average. Cost containment during this period included a 2011 wage freeze for King County Metro employees.

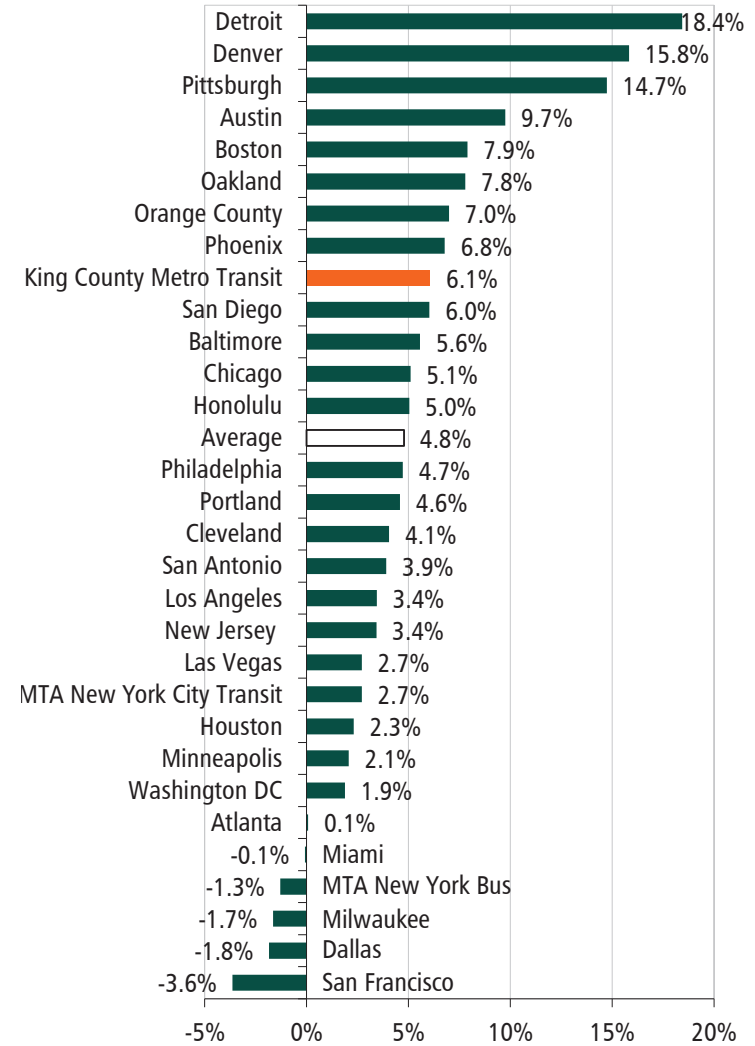
Over 10 years Metro had an average annual percentage growth in cost per hour of 3.8 percent, (peer rank: 20), below the peer average of 4.2 percent.

**Operating Cost Per Vehicle Mile  
2012**



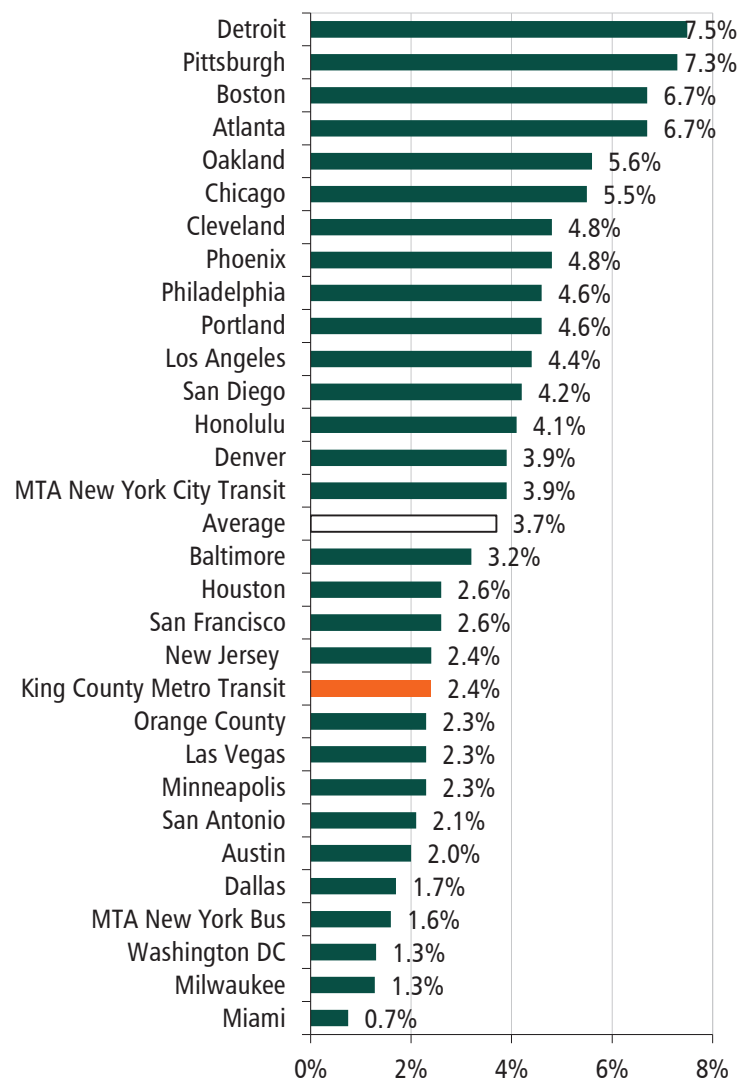
Metro's operating cost per vehicle mile was \$10.86 (peer rank: 10).

**Operating Cost Per Vehicle Mile  
Percentage Change 2011–2012**



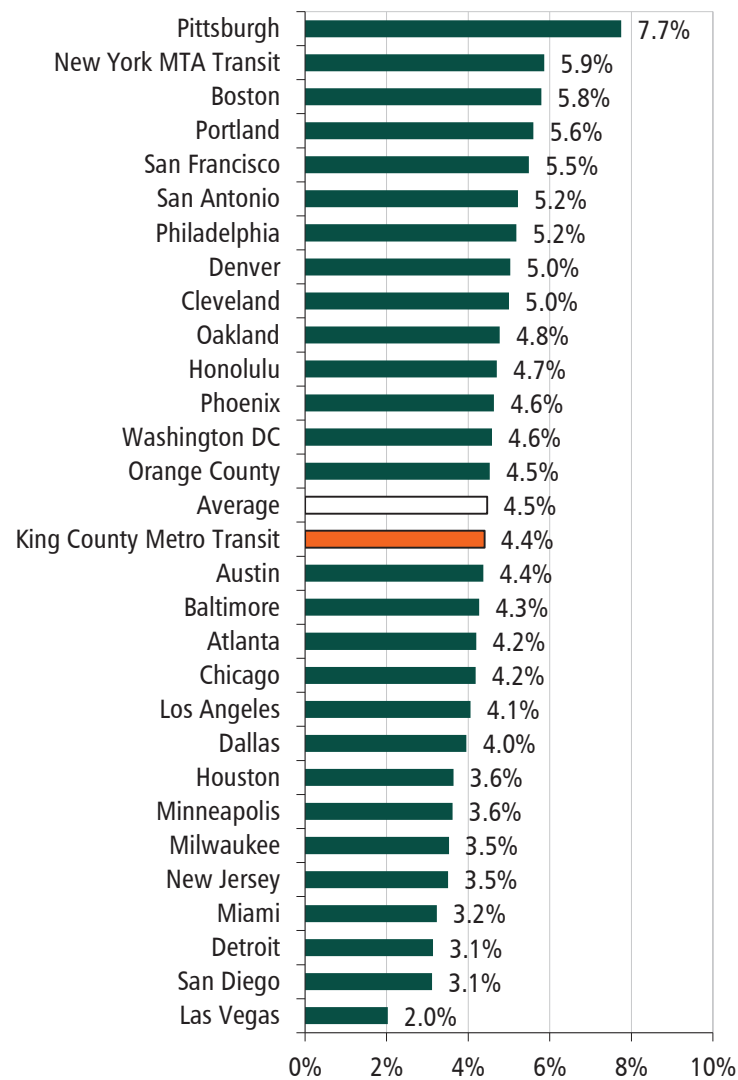
Metro's operating cost per vehicle mile increased 6.1 percent in 2012 (peer rank: 9). Metro miles increased at a slower rate than hours, so cost per mile increased more than cost per hour. Part of this difference was due to the adding back of some recovery time to improve on-time performance, as noted earlier.

**Operating Cost Per Vehicle Mile  
Average Annual Percentage Change 2008–2012**



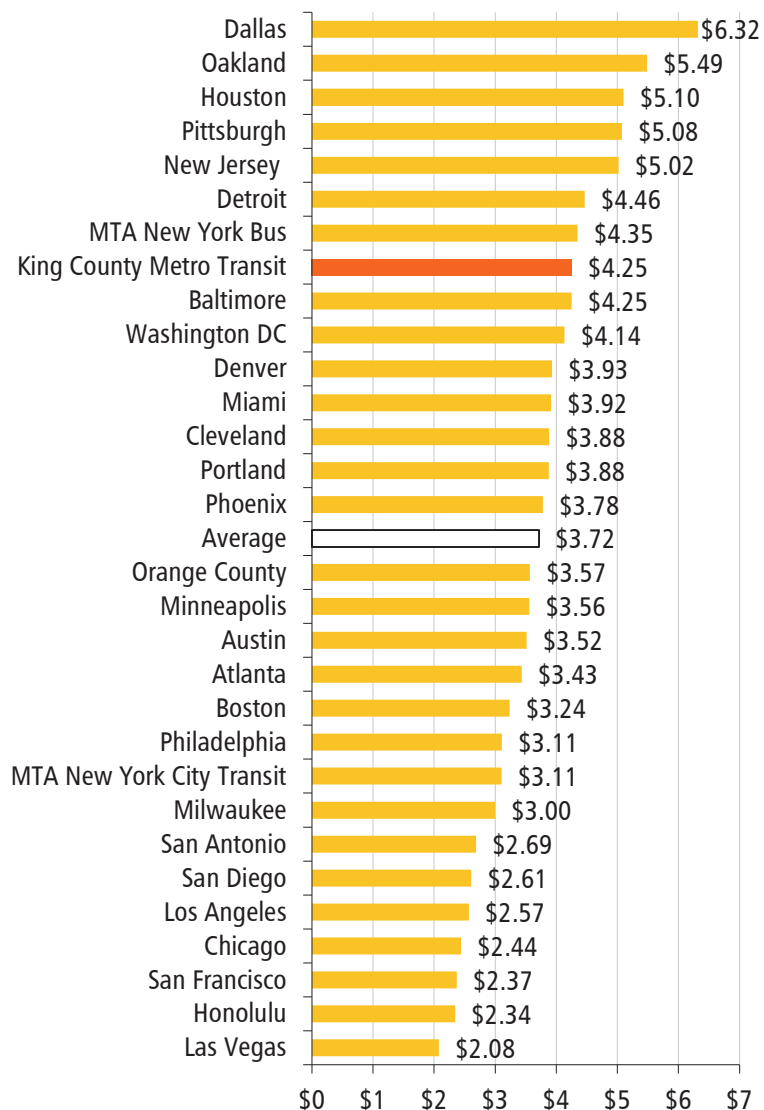
Metro’s average annual growth was 2.4 percent over five years (peer rank: 20). During this five-year space, costs were more contained and recovery time was reduced in response to the county’s performance audit.

**Operating Cost Per Vehicle Mile  
Average Annual Percentage Change 2003–2012**



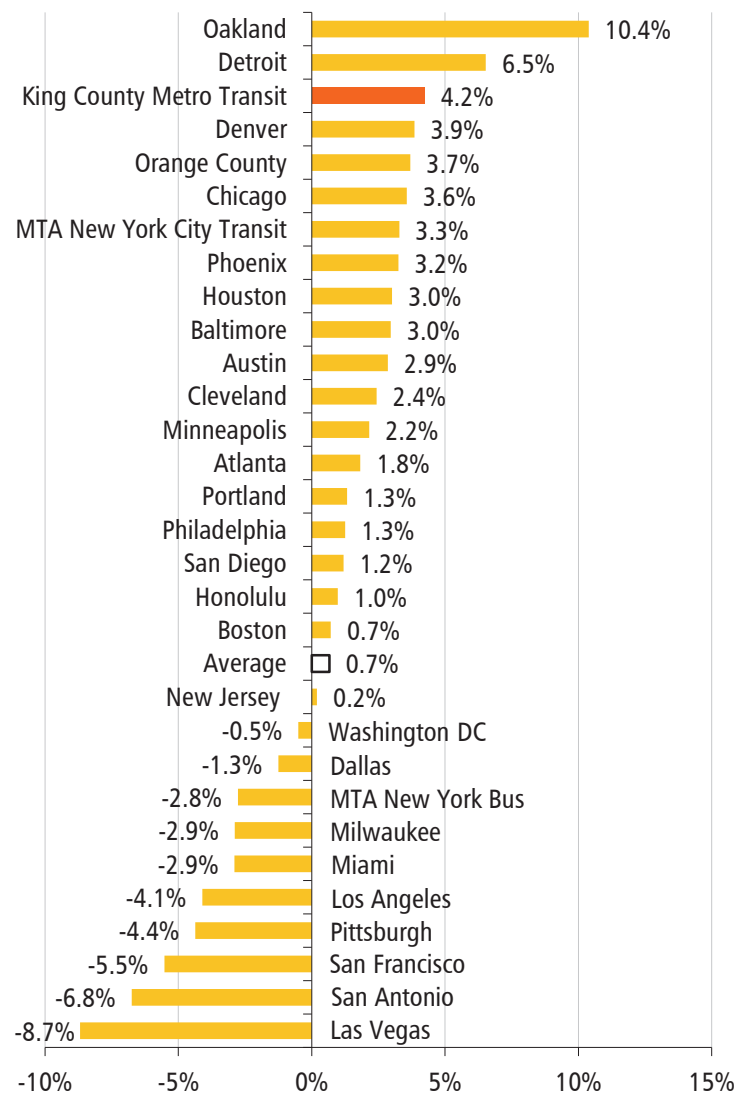
Over 10 years, Metro’s average annual growth in cost per mile was 4.4 percent (peer rank: 15), which is slightly less than the peer average.

### Operating Cost Per Boarding 2012



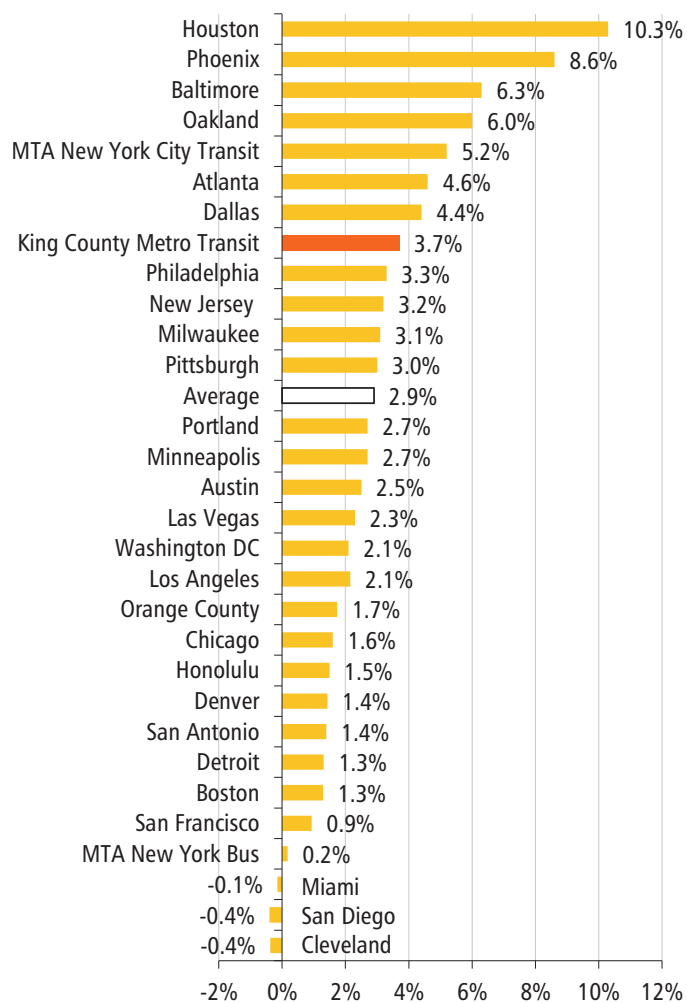
Metro's operating cost per boarding was \$4.25 (peer rank: 8).

### Operating Cost Per Boarding Percentage Change 2011–2012



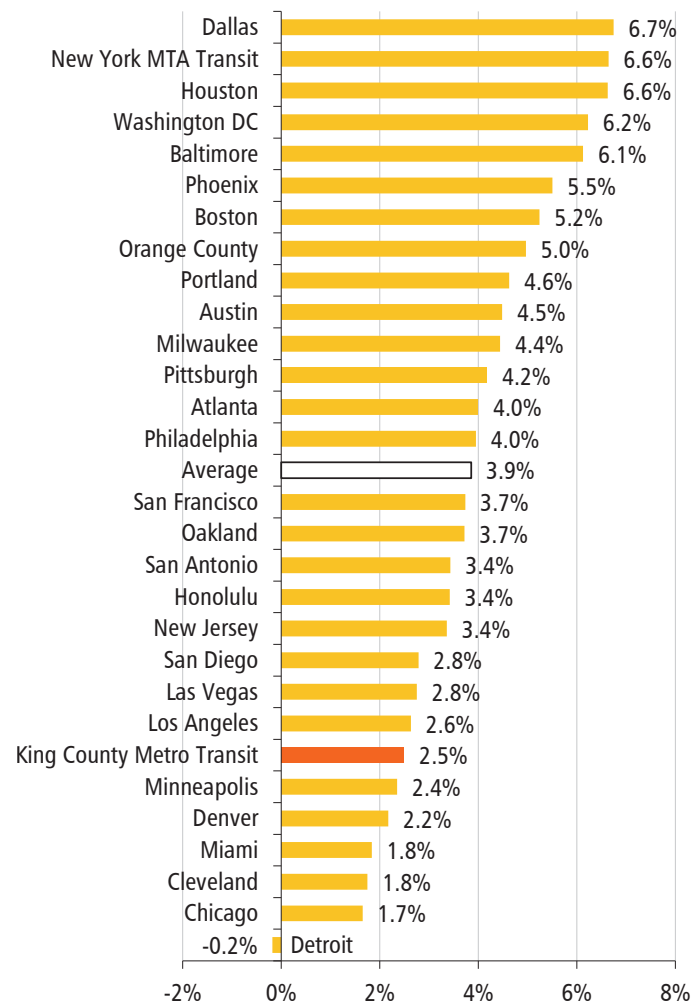
Operating cost per boarding increased 4.2 percent in 2012 (peer rank: 3).

**Operating Cost Per Boarding  
Average Annual Percentage Change 2008–2012**



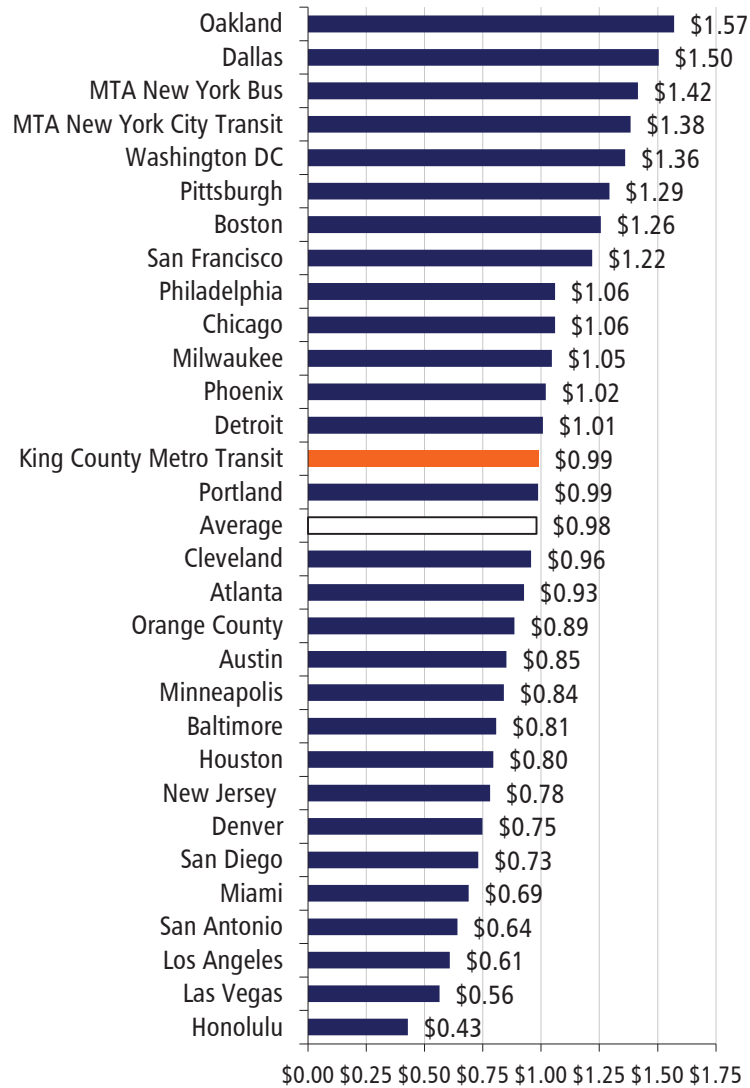
Metro’s average annual growth over five years was 3.7 percent (peer rank: 8). One reason Metro’s cost per boarding grew faster (relative to peers) than cost per hour or cost per mile over the past few years is that many peer agencies reduced hours and miles, which reduced growth in total costs. Agencies likely cut their less-productive service, so the effect on their boardings was not as great as the effect on their total costs. Meanwhile, Metro increased service hours during this period, although ridership declined with employment.

**Operating Cost Per Boarding  
Average Annual Percentage Change 2003–2012**



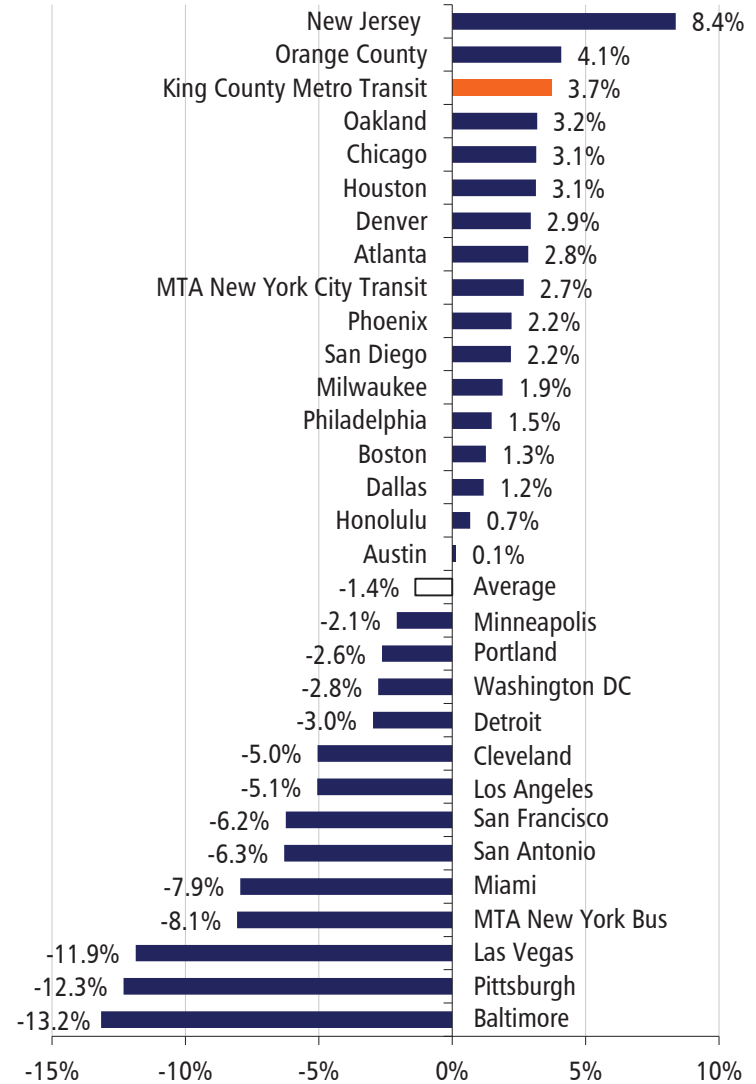
Metro’s average annual growth in cost per boarding over 10 years was 2.5 percent (peer rank: 23), and below the average of 3.9 percent. This reflects the strong growth in boardings over this period.

**Operating Cost Per Passenger Mile  
2012**



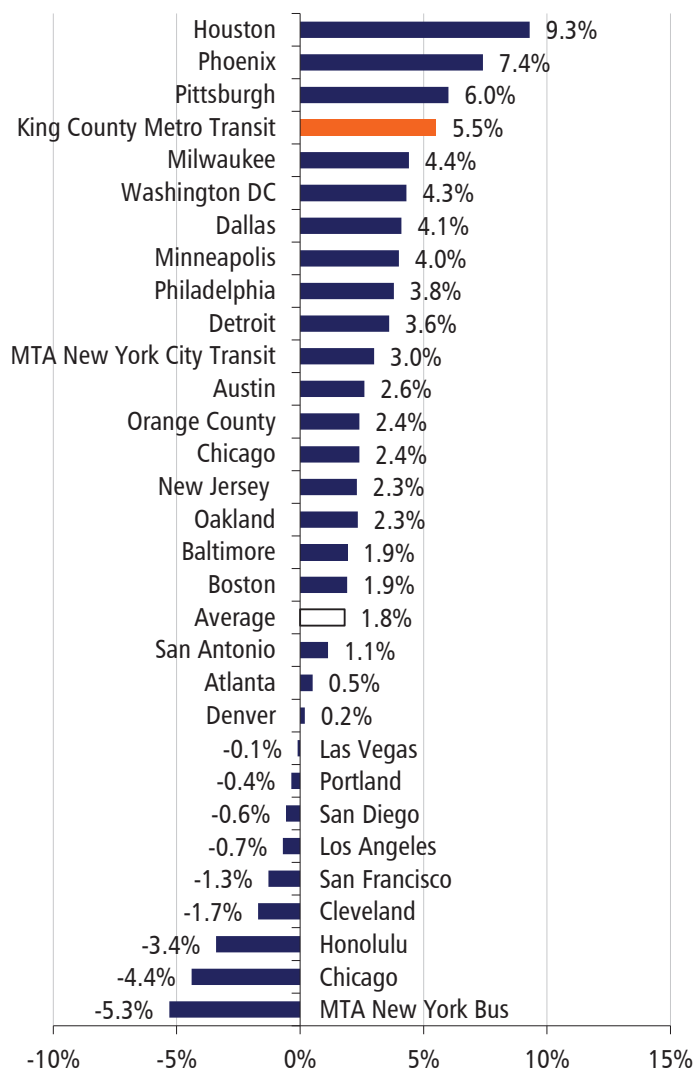
Metro’s operating cost per passenger mile was \$0.99 (peer rank: 14)—just about the peer average.

**Operating Cost Per Passenger Mile  
Percentage Change 2011–2012**



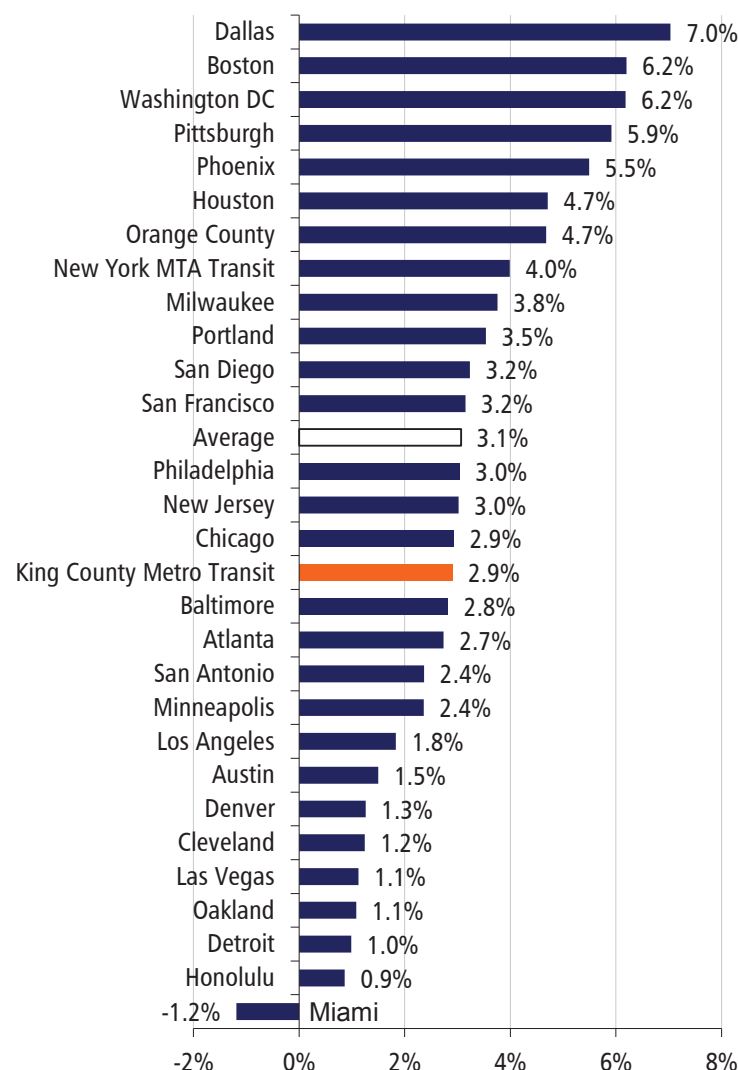
The operating cost per passenger mile increased by 3.7 percent in 2012 (peer rank: 3).

**Operating Cost Per Passenger Mile  
Average Annual Percentage Change 2008–2012**



Metro’s average annual growth was 5.5 percent over five years (peer rank: 4). As noted earlier, Metro passenger miles and average trip length have decreased over the past five years as a result of the recession and service restructures around Link light rail and RapidRide service.

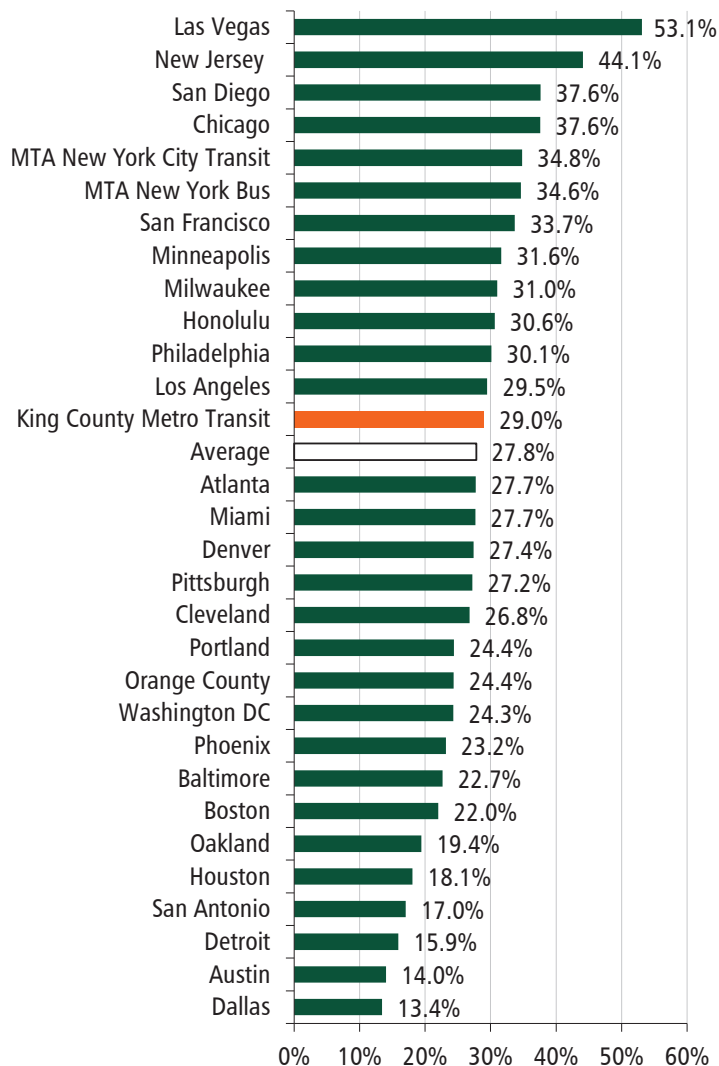
**Operating Cost Per Passenger Mile  
Average Annual Percentage Change 2003–2012**



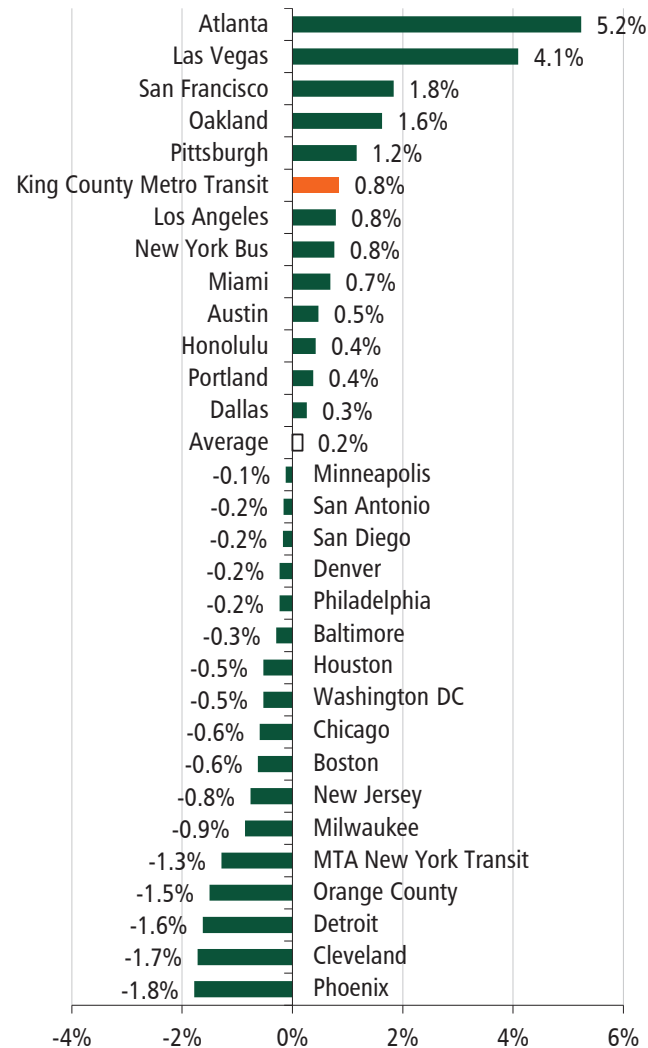
Metro’s average annual growth in cost per passenger mile was 2.9 percent over 10 years (peer rank: 16), slightly less than the peer average.



**Farebox Recovery  
2012**



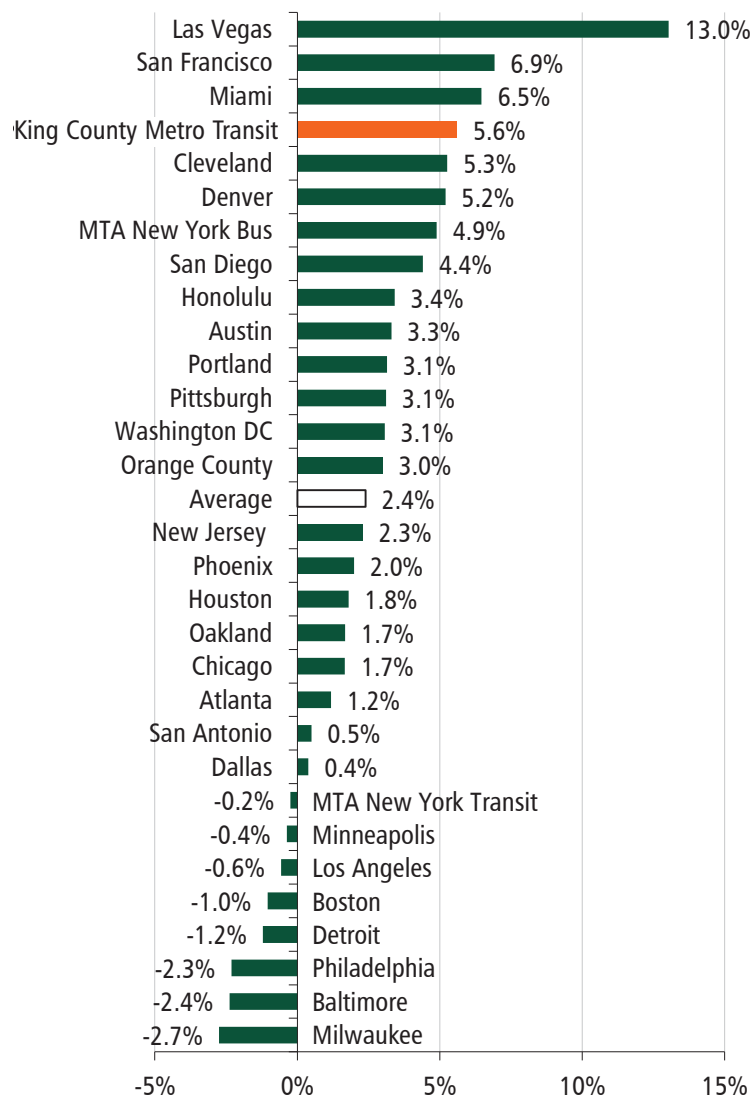
**Farebox Recovery  
Difference 2011–2012**



Metro’s farebox recovery (bus fare revenue divided by bus operating cost) was 29 percent (peer rank: 13). Metro’s target farebox recovery rate is 25 percent, which Metro has surpassed every year since 2009.

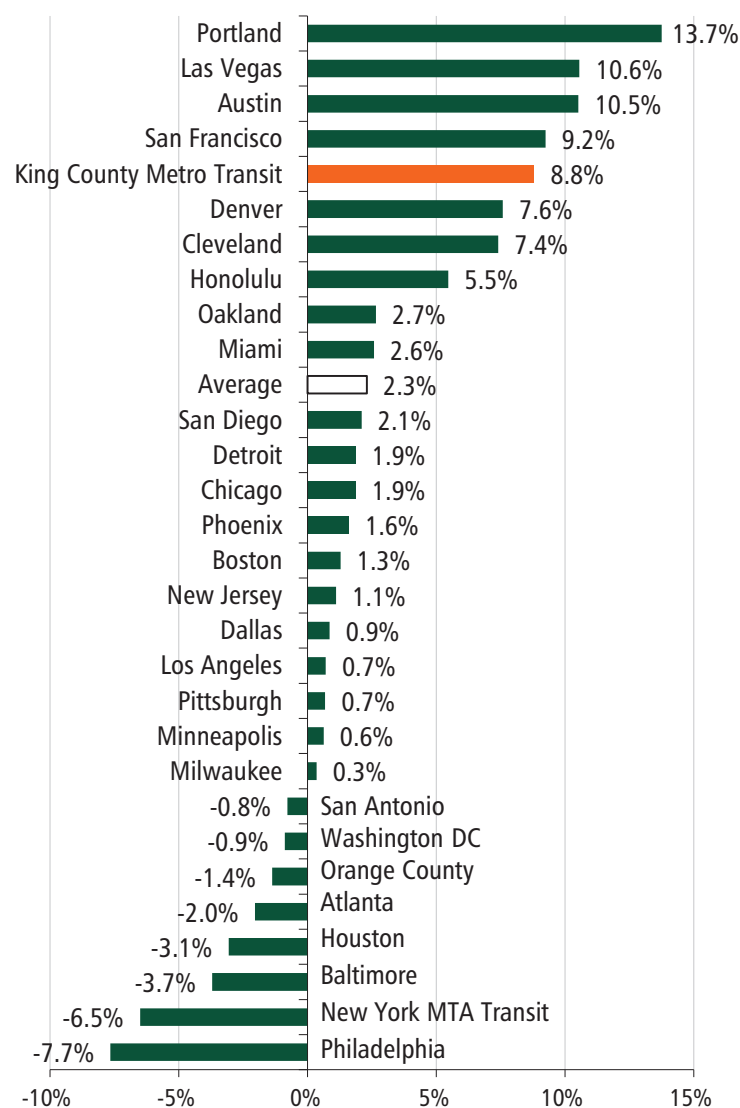
Farebox recovery rate grew by 0.8 percentage points in 2012 (peer rank: 6).

**Farebox Recovery  
Difference 2008–2012**



Farebox recovery increased by a total of 5.6 percentage points over five years (peer rank: 4). This increase is largely due to four fare increases during this time period, while at the same time keeping cost increases below the peer average.

**Farebox Recovery  
Difference 2003–2012**



Farebox recovery increased by a total of 8.8 percentage points over 10 years (peer rank: 5).